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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,472	02/10/2004	Yoshiaki Tatsumi	101160-00026	9149

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EXAMINER

TRAN, THAO T

ART UNIT	PAPER NUMBER
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1711

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/774,472

Applicant(s)

TATSUMI ET AL.

Examiner

Thao T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 5-19 is/are pending in the application.
- 4a) Of the above claim(s) 7-9 and 12-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,10,11,18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/925,739.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is in response to the Amendments filed on 01/23/2007.
2. Claims 1-2, 5-19 are currently pending in this application. Claims 1 and 18-19 have been amended. Claims 7-9 and 12-17 have been previously withdrawn as directed to a non-elected invention.
3. In view of the prior Office action, the 112 rejection of the claims has been withdrawn due to the Amendments made thereto. The prior art rejections are maintained as set forth below.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1-2, 5-6, 10-11, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US Pat. 5,691,876) in view of Hisamoto et al. (US Pat. 6,027,629).

Chen teaches an electrostatic chucking device having a laminate structure; wherein the laminate comprises in sequence of a substrate 110, a first polymeric dielectric layer 124, a conductive layer 122 (electrode layer), and a second polymeric dielectric layer 114 (see abstract; Fig. 1; col. 6, ln. 35-43).

The dielectric layer 124 comprises a non-thermoplastic polyimide core layer, and two thermoplastic polyimide adhesive layers to adhere the dielectric layer to the substrate and the conductive layer. The dielectric layer 114 comprises a non-thermoplastic

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polyimide layer and a thermoplastic polyimide adhesive layer adhering to the conductive layer (see paragraph bridging col. 7-8; col. 9, ln. 38-67; col. 10, ln. 1-5).

The thermoplastic polyimide adhesive layer can be 38.1 microns in thickness (see col. 9, ln. 38-40, 65-67) or 12.7 (see col. 11, ln. 1-2), which reads on the instantly claimed ranges.

Chen further discloses the substrate to be a conductive platen used to support a semiconductor workpiece (see abstract). Example 1 shows the conductive substrate to be stainless steel (see col. 8, ln. 47). However, Chen does not teach the substrate to be aluminum alloy.

Hisamoto discloses an electrostatic chuck comprising aluminum alloy, stainless steel, or composite material of ceramics and plastics (see paragraph bridging col. 2-3).

Therefore, it would have been obvious to one of ordinary skill in the art to have employed a substrate made of aluminum alloy in lieu of stainless steel and would have given the same effects. This is because aluminum alloy and stainless steel have been conventionally used as substrate supports for semiconductor workpieces.

It is noted that since the adhesive layer of the reference is also made of thermoplastic polyimide, it would inherently have the same properties, such as being capable of withstanding the presently claimed temperature. It is further noted that in an article claim, it is the structural or chemical elements that impart patentability, and not functional or property limitations. Applicants are reminded to provide the structural or chemical components that impart the claimed properties in order to patentably distinguish from the prior art.

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Chen does not teach the use of a siloxane-modified polyimide in the adhesive layer in the same embodiment. However, in another embodiment, Chen teaches the use of a siloxane-modified polyimide layer as the adhesive layer to provide excellent adhesion of the polyimide to the metal surface (see paragraph bridging col. 10-11).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have employed the siloxane-modified polyimide in the adhesive layer of the first embodiment of Chen for the purpose of improving adhesion of the polyimide layer to the substrate and the conductive layer.

Response to Arguments

6. Applicant's arguments filed on 01/23/2007 have been fully considered but they are not persuasive.

In response to Applicants' arguments that Chen does not teach polymeric dielectric systems that require an adhesive to adhere to a substrate, it is noted that as pointed out in the prior Office action and paragraph 5 above, Figure 1 in the reference shows the first dielectric layer 124 comprising a non-thermoplastic polyimide core layer and two thermoplastic polyimide adhesive layers, disposed between the substrate 110 and the conductive layer 122. Thus, one of the adhesive layers of the first dielectric layer 124 adheres to and in direct contact with the substrate.

In response to Applicants' argument that the adhesive layer of Chen is not bonded to the substrate at a temperature of 100 to 250°C, it is noted that although in one embodiment Chen discloses the bonding temperature at 280°C or above, Chen teaches the polyimide film having two Tg's, one at 220°C and another at 280°C to 350°C, illustrating

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that bonding temperature can also be around 220°C, as well as 280°C or 350°C, which meets the requirement of the presently claimed adhesive layer.

It is again emphatically noted that the ability of the adhesive layer to withstand compression bonding at a particular temperature range is not a functional feature or even a procedural/method step feature, rather, the recited feature is an expressly stated structural characteristic of the adhesive layer”. And in an article claim, limitations on functions, properties, or characteristics would have no significant patentable weight. Applicants are required to provide the specific structural or chemical elements imparting the claimed characteristics in order to patentably distinguish from the prior art.

Thus, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Neither do Applicant's arguments comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*,

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958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Hisamoto is used to illustrate that substrates made of stainless steel as well as aluminum alloy have been taught in the art of making electrostatic chuck. Thus, these substrates have been used as alternatives of each other, and Hisamoto is used to remedy the teachings of Chen.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 9:00 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Thao T. Tran
Primary Examiner
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